

Abstract of the Disclosure

An apparatus and a method for managing fuel vapor pressure in a fuel system that supplies fuel to an internal combustion engine. The fuel vapor pressure management apparatus performs leak detection on a headspace of the fuel system, performs excess negative pressure relief of the headspace, performs excess positive pressure relief of the headspace, and performs a diagnostic on the purge valve. The apparatus includes a housing, a pressure operable device, and a printed circuit board. The housing defines an interior chamber. The pressure operable device separates the interior chamber into first and second portions. And the pressure operable device includes a poppet that moves along an axis and a seal that is adapted to cooperatively engage the poppet. The printed circuit board is supported by the housing in the interior chamber. And the printed circuit board includes a first sensor that is adapted to be actuated by movement of the poppet along the axis and a second sensor that measures a flow rate within the housing.